



INTEGRATED
WATER MANAGEMENT & LAND FARM

SOUND ENVIRONMENTAL SOLUTIONS FOR A
NEEDED AND NECESSARY ENERGY RESOURCE

Exploration & Production Waste Management

Responsible Energy Development for a needed and necessary
energy resource

The background features a stylized landscape. The top half shows a range of green mountains with varying shades of green, creating a sense of depth. The bottom half is a solid yellow-orange color, representing the ground or a body of water. The text is centered in the yellow-orange area.

E&P development and
Environmental Stewardship
must go hand in hand

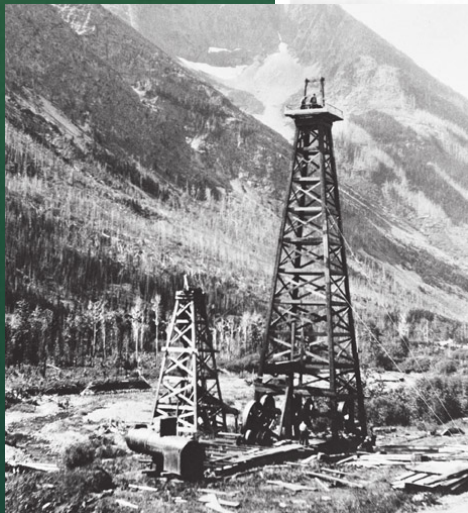
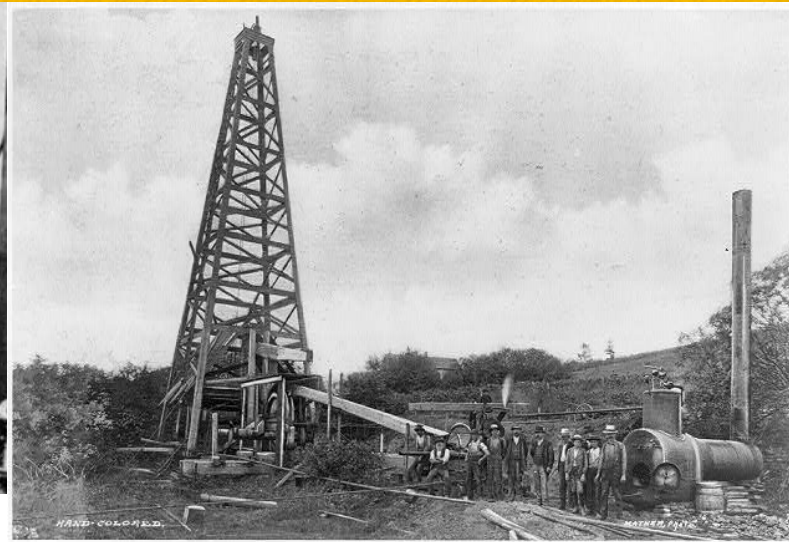
The background features a stylized landscape with green mountain peaks. A horizontal band of yellow-orange textured material, resembling torn paper, runs across the middle of the image. The text is centered within this band.

Through regulations, company
policy, environmental groups and
technical advancement, E&P
development and waste
management has
come a long way .

As an industry, we have come
a long way from this



In the early days of E&P, environmental liability and stewardship was thrown to the wind (literally)



The Era of the Oil Gusher

Lakeview Gusher of 1910, Maricopa, California





It was not that long ago
Production Water was used for
dust control and Oil Spills were
left to nature to clean up



Today's E&P Waste Management is a "High Tech" Business.

Gone are the days when anyone who has a few acres of land can dig a hole, line it and be in the E&P disposal business. Today the disposal industry is highly regulated and held to the highest producer requirements, regulatory oversight and environmental safeguard standards.



What are the waste streams
of E&P?

- Spent filters, filter media
- hydrocarbon solids, hydrates
- Hydrocarbon-bearing soil
- Pigging wastes from gathering lines
- Constituents removed from produced water before it is injected or otherwise disposed of
- Liquid hydrocarbons removed from the production stream but not from oil refining
- Produced water
- Drilling fluids
- Drill cuttings
- Well completion, treatment, and stimulation fluids
- Basic sediment, water, and other tank bottoms from storage facilities that hold product and exempt waste
- Accumulated materials such as hydrocarbons, solids, sands, and emulsion from production separators,
- Pit sludge and contaminated bottoms from Gas plant dehydration wastes, including glycol-based compounds, glycol filters, and filter media, backwash, and molecular sieves
- Waste crude oil from primary field operations
- Light organics volatilized from exempt wastes in reserve pits, impoundments, or production equipment.

E&P development often coexists in our communities





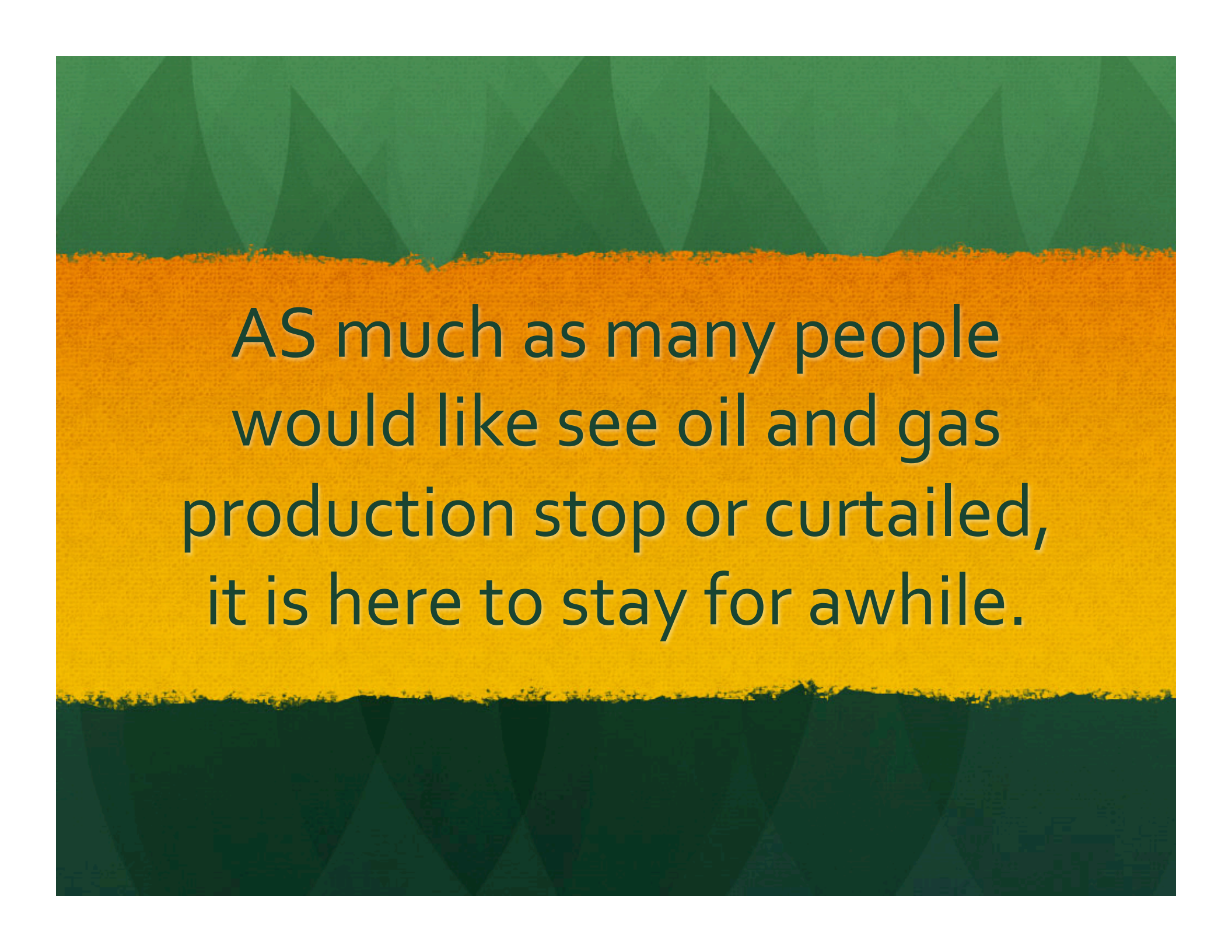
But sometimes even with all
the best safeguards things
can go terribly wrong in our
industry



The Chevron pipeline oil spill in Salt Lake City

Chevron had a
real PR disaster
on their hands.
They stood up,
took control,
made no
excuses and
took care of the
problem



The background features a stylized landscape with green, triangular mountain peaks. A horizontal band of textured yellow and orange occupies the center, where the text is located. The bottom of the image shows a dark green, textured area that appears to be a reflection or a continuation of the landscape.

AS much as many people
would like see oil and gas
production stop or curtailed,
it is here to stay for awhile.



Alternative Energy

Alternative Energy such as Wind and Solar can only produce about 20% of our nations energy needs. We are years away from Alternative Energy filling in the gap of our energy needs.

When it comes to products, you'd probably be more hard-pressed to find something that doesn't contain oil than something that does.

Below is a partial list of products made from Petroleum (just a few of over 6000 items)

One 42-gallon barrel of oil creates 19.4 gallons of gasoline. The rest (over half) is used to make things like:

Clothing Ink	Hair coloring	Model cars
Heart Valves	Toilet seats	Floor wax
Crayons	Denture adhesive	Sports car bodies
Parachutes	Loudspeakers	Tires
Telephones	Movie film	Dishwashing liquids
Enamel	Fishing boots	Unbreakable dishes
Transparent tape	Candles	Toothbrushes
Antiseptics	Water pipes	Toothpaste
Vacuum bottles	Car enamel	Combs
Deodorant	Shower curtains	Tents
Pantyhose	Credit cards	Hair curlers
Rubbing Alcohol	Aspirin	Lipstick
Carpets	Golf balls	Ice cube trays
Epoxy paint	Detergents	Electric blankets
Oil filters	Sunglasses	Tennis rackets
Upholstery	Glue	Drinking cups
Hearing Aids	Fishing rods	House paint
Car sound insulation	Linoleum	Roller skates wheels
Cassettes	Plastic wood	Guitar strings
Motorcycle helmets	Soft contact lenses	Ammonia
Pillows	Trash bags	Eyeglasses
Shower doors	Hand lotion	Ice chests
Shoes	Shampoo	Life jackets
Refrigerator linings	Shaving cream	TV cabinets
Electrical tape	Football	Car battery cases
Safety glass	Paint brushes	Insect repellent
Awnings	Balloons	Refrigerants
Salad bowl	Fan belts	Typewriter ribbons
Rubber cement	Umbrellas	Cold cream
Nylon rope	Paint rollers	Glycerin
Ice buckets	Luggage	Plywood adhesive
Fertilizers	Antifreeze	Cameras



The “Hand-off Of The Environmental Responsibility”

The producers in the oil industry have responded to the environmental needs and requirements of today's E&P government regulations and the concerns of environmental groups. Disposal facilities must embrace the same standards and share in the responsibility of both the short and long term environmental liability. In the E&P industry you need more than a disposal company to do business with; you need a partner in the environmental mitigation liability business.



The background features a stylized landscape with green mountain peaks at the top and bottom. A wide, textured band of yellow and orange occupies the middle section. The text is centered within this band.

Thank you

A big topic for a short discussion



Multiple wells on a single pad site is greatly reducing environmental impacts

Oil and Gas
Exploration and
Production will
be required for
the foreseeable
future to “fuel”
our economy.
Without energy
there is no
commerce.

